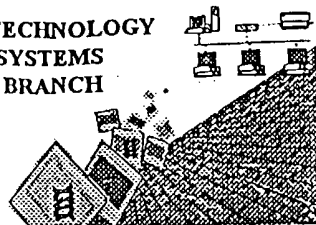


BIOTECHNOLOGY
SYSTEMS
BRANCH



RAW SEQUENCE LISTING
ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 10/804,331
Source: FWO
Date Processed by STIC: 12/2/04

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION AND PATENTIN SOFTWARE QUESTIONS, PLEASE CONTACT MARK SPENCER, TELEPHONE: 571-272-2510; FAX: 571-273-0221

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER VERSION 4.2 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker/chkrnote.htm>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>) , EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: Commissioner for Patents, P.O. Box-1450, Alexandria, VA 22313-1450
3. Hand Carry, Federal Express, United Parcel Service, or other delivery service (EFFECTIVE 06/05/04):
U.S. Patent and Trademark Office, 220 20th Street S., Customer Window, Mail Stop Sequence, Crystal Plaza Two, Lobby, Room 1B03, Arlington, VA 22202

Revised 05/17/04

Raw Sequence Listing Error Summary

ERROR DETECTED

SUGGESTED CORRECTION

SERIAL NUMBER: 19804,331

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics
 Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."

- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.

- 3 Misaligned Amino
 Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.

- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.

- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.

- 6 PatentIn 2.0
 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.

- 7 Skipped Sequences
 (OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 This sequence is intentionally skipped

 Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.

- 8 Skipped Sequences
 (NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
 <210> sequence id number
 <400> sequence id number
 000

- 9 Use of n's or Xaa's
 (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
 Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.

- 10 Invalid <213>
 Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence

- 11 Use of <220> Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
 Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
 (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)

- 12 PatentIn 2.0
 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.

- 13 Misuse of n/Xaa "n" can only represent a single nucleotide; "Xaa" can only represent a single amino acid



IFWO

RAW SEQUENCE LISTING

DATE: 12/02/2004

PATENT APPLICATION: US/10/804,331

TIME: 12:44:08

Input Set : A:\9368-5.ST25.txt

Output Set: N:\CRF4\12022004\J804331.raw

3 <110> APPLICANT: Smith, Johnathan F.
 4 Kamrud, Kurt I.
 5 Rayner, Jon O.
 7 <120> TITLE OF INVENTION: IMPROVED ALPHAVIRUS REPLICONS AND HELPER CONSTRUCTS
 9 <130> FILE REFERENCE: 9368-5
 11 <140> CURRENT APPLICATION NUMBER: US 10/804,331
 12 <141> CURRENT FILING DATE: 2004-03-19
 14 <150> PRIOR APPLICATION NUMBER: US 60/456,196
 15 <151> PRIOR FILING DATE: 2003-03-20
 17 <160> NUMBER OF SEQ ID NOS: 44
 19 <170> SOFTWARE: PatentIn version 3.2
 21 <210> SEQ ID NO: 1
 22 <211> LENGTH: 18
 23 <212> TYPE: PRT
 24 <213> ORGANISM: Artificial
 26 <220> FEATURE:
 27 <223> OTHER INFORMATION: Insertion sequence
 29 <400> SEQUENCE: 1
 31 Ile Thr Ser Met Asp Ser Trp Ser Ser Gly Pro Ser Ser Leu Glu Ile
 32 1 5 10 15
 35 Val Asp
 39 <210> SEQ ID NO: 2
 40 <211> LENGTH: 357
 41 <212> TYPE: DNA
 42 <213> ORGANISM: Artificial
 44 <220> FEATURE:
 45 <223> OTHER INFORMATION: Spacer sequence
 47 <400> SEQUENCE: 2
 48 ctgaatgaag ccataccaaa cgacgagcgt gacaccacga tgcctgtagc aatggcaaca 60
 50 acgttgcgca aactattaac tggcgaacta cttactctag ctaccaactc tttttccgaa 120
 52 ggtaactggc ttcagcagag cgcagatacc aaatactgtt cttctagtgt agccgtagtt 180
 54 aggccaccac ttcaagaact ctgtagcacc gctacatac ctcgctctgc taatcctggt 240
 56 accagtggct gctgccagtg gcgataagtc gtgtcttacc gggttggact caagacgata 300
 58 gttaccggat aaggcgcagc ggtcgggctg aacggggggt tcgtgcacac agcccag 357
 61 <210> SEQ ID NO: 3
 62 <211> LENGTH: 342
 63 <212> TYPE: DNA
 64 <213> ORGANISM: Artificial
 66 <220> FEATURE:
 67 <223> OTHER INFORMATION: Spacer sequence
 69 <400> SEQUENCE: 3
 70 ctattccaga agtagtgagg aggctttttt ggaggcctag gcttttgcaa aaagcttgta 60
 72 tatccatttt cggatctgat caagagacag gatgaggatc gtttcgcatg attgaacaag 120

pp 1-3
Does Not Comply
Corrected Diskette Needed

*This is an insufficient explanation.
 Give source of genetic material.
 (see item 11 on
 Error summary
 sheet)*

same error

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/804,331

DATE: 12/02/2004

TIME: 12:44:08

Input Set : A:\9368-5.ST25.txt

Output Set: N:\CRF4\12022004\J804331.raw

```

74 atggattgca cgcaggttct cgggccgctt ggggtggagag gctattcggc tatgactggg      180
76 cacaacagac aatcggctgc tctgatgccg ccgtgttccg gctgtcagcg cagggggcgcc      240
78 cggttctttt tgtcaagacc gacctgtccg gtgccctgaa tgaactgcag gacgaggcag      300
80 cgcggctatc gtggctggcc acgacgggcg ttccttgccg ag                          342
83 <210> SEQ ID NO: 4
84 <211> LENGTH: 257
85 <212> TYPE: DNA
86 <213> ORGANISM: Artificial
88 <220> FEATURE:
89 <223> OTHER INFORMATION: Spacer sequence
91 <400> SEQUENCE: 4
92 ctcatttttt aaccaatagg ccgaaatcgg caaaatccct tataaatcaa aagaatagac      60
94 cgagataggg ttgagtgttg ttccagtttg gaacaagagt ccactattaa agaacgtgga      120
96 ctccaacgtc aaagggcgaa aaaccgtcta tcagggcgat ggccactac gtgaaccatc      180
98 accctaatac agtttttttg ggtcgagggt ccgtaaagca ctaaatcgga accctaaagg      240
100 gagccccga tttagag                          257
103 <210> SEQ ID NO: 5
104 <211> LENGTH: 383
105 <212> TYPE: DNA
106 <213> ORGANISM: Artificial
108 <220> FEATURE:
109 <223> OTHER INFORMATION: Spacer sequence
111 <400> SEQUENCE: 5
112 ctgcgcaagg aacgcccgtc gtggccagcc acgatagccg cgctgcctcg tcttcagtt      60
114 cattcagggc accggacagg tcggtcttga caaaaagaac cgggcgcccc tgcgctgaca      120
116 gccggaacac ggccgcatca gagcagccga ttgtctgttg tgcccagtca tagccgaata      180
118 gcctctccac ccaagcggcc ggagaacctg cgtgcaatcc atcttgttca atcatgcgaa      240
120 acgatcctca tctgtctctt tgatcagatc cgaaaatgga tatacaagct cactcattag      300
122 gcacccaggg cttttacatt tatgcttccg gctcgtatgt tgtgtggaat tgtgagcgga      360
124 taacaatttc acacaggaaa cag                          383
127 <210> SEQ ID NO: 6
128 <211> LENGTH: 579
129 <212> TYPE: DNA
130 <213> ORGANISM: Artificial
132 <220> FEATURE:
133 <223> OTHER INFORMATION: Spacer sequence
135 <400> SEQUENCE: 6
136 ctgcaataaa caagttgggg tgggcgaaga actccagcat gagatccccg cgctggagga      60
138 tcaccagcc gccgtcccgg aaaacgattc cgaagcccaa cttttcatag aaggcggcgg      120
140 tggaatcgaa atctcgtgat ggcaggtttg gcgtcgcttg gtcggtcatt tcgaacccca      180
142 gagtcccgtc cagaagaact cgtcaagaag gcgatagaag gcgatgcgt gcgaatcggg      240
144 agcggcgata ccgtaaagca cgaggaagcg gtcagcccat tcgccgcaa gcttgtatat      300
146 ccattttcgg atctgatcaa gagacaggat gaggatcggt tcgcatgatt gaacaagatg      360
148 gattgcacgc aggttctccg gccgcttggg tggagaggct attcggctat gactgggcac      420
150 aacagacaat cggctgctct gatgccggcg gtttccggct gtcagcgag gggcgcccgg      480
152 ttctttttgt caagaccgac ctgtccgggt ccctgaatga actgcaggac gaggcagcgc      540
154 ggctatcgtg gctggccacg acgggcgttc cttgcgcag                          579
157 <210> SEQ ID NO: 7
158 <211> LENGTH: 749

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RAW SEQUENCE LISTING

DATE: 12/02/2004

PATENT APPLICATION: US/10/804,331

TIME: 12:44:08

Input Set : A:\9368-5.ST25.txt

Output Set: N:\CRF4\12022004\J804331.raw

```

159 <212> TYPE: DNA
160 <213> ORGANISM: Artificial
162 <220> FEATURE:
163 <223> OTHER INFORMATION: Spacer sequence
165 <400> SEQUENCE: 7
166 ctgcaataaa caagttgggg tgggcgaaga actccagcat gagatccccg cgctggagga      60
168 tcatccagcc ggcgtcccgg aaaacgattc cgaagcccaa cctttcatag aaggcggcgg      120
170 tggaatcgaa atctcgtgat ggcaggttgg gcgtcgcttg gtcggtcatt tcgaacccca      180
172 gagtcccgtc cagaagaact cgtcaagaag gcgatagaag gcgatgcgct gcgaatcggg      240
174 agcggcgata ccgtaaagca cgaggaagcg gtcagcccat tcgccgccaa gctcttcagc      300
176 aatatcacgg gtagccaacg ctatgtcctg atagcgggcc gccacacca gccggccaca      360
178 gtcgatgaat ccagaaaagc ggccattttc caccatgata ttcggaagc aggcattcgc      420
180 atgggtcacg acgagatcct cgccgtcggg catgcgcgcc ttgagcctgg cgaacagttc      480
182 ggctggcgcg agcccctgat gctcttcgtc cagatcatcc tgatcgaaa gaccggcttc      540
184 catccgagta cgtgctcgct cgatgcgatg ttctcgcttg tggtcgaatg ggcaggtagc      600
186 cggatcaagc gtatgcagcc gccgcattgc atcagccatg atggatactt tctcggcagg      660
188 agcaaggtga gatgacagga gatcctgcc cggcacttcg cccaatagca gccagtcctt      720
190 tcccgtttca gtgacaacgt cgagcacag                                     749
193 <210> SEQ ID NO: 8
194 <211> LENGTH: 30
195 <212> TYPE: DNA
196 <213> ORGANISM: Artificial
198 <220> FEATURE:
199 <223> OTHER INFORMATION: PCR primer
201 <400> SEQUENCE: 8
202 tggcgcgcgc ctcggaattc cccctctccc                                     30
205 <210> SEQ ID NO: 9
206 <211> LENGTH: 29
207 <212> TYPE: DNA
208 <213> ORGANISM: Artificial
210 <220> FEATURE:
211 <223> OTHER INFORMATION: PCR primer
213 <400> SEQUENCE: 9
214 aggcgcgcct tctatgtaag cagcttgcc                                     29
217 <210> SEQ ID NO: 10
218 <211> LENGTH: 30
219 <212> TYPE: DNA
220 <213> ORGANISM: Artificial
222 <220> FEATURE:
223 <223> OTHER INFORMATION: PCR primer
225 <400> SEQUENCE: 10
226 gctggatcca tggagaaaaa aatcactgga                                     30
229 <210> SEQ ID NO: 11
230 <211> LENGTH: 31
231 <212> TYPE: DNA
232 <213> ORGANISM: Artificial
234 <220> FEATURE:
235 <223> OTHER INFORMATION: PCR primer
237 <400> SEQUENCE: 11

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RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/804,331

DATE: 12/02/2004

TIME: 12:44:08

Input Set : A:\9368-5.ST25.txt

Output Set: N:\CRF4\12022004\J804331.raw

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238 cgatctagat tacgccccgc cctgccactc a 31
241 <210> SEQ ID NO: 12
242 <211> LENGTH: 26
243 <212> TYPE: DNA
244 <213> ORGANISM: Artificial
246 <220> FEATURE:
247 <223> OTHER INFORMATION: PCR primer
249 <400> SEQUENCE: 12
250 cggaattcat tatcatcggtg tttttc 26
253 <210> SEQ ID NO: 13
254 <211> LENGTH: 31
255 <212> TYPE: DNA
256 <213> ORGANISM: Artificial
258 <220> FEATURE:
259 <223> OTHER INFORMATION: PCR primer
261 <400> SEQUENCE: 13
262 cgggatcccc cctaacgtta ctggccgaag c 31
265 <210> SEQ ID NO: 14
266 <211> LENGTH: 27
267 <212> TYPE: DNA
268 <213> ORGANISM: Artificial
270 <220> FEATURE:
271 <223> OTHER INFORMATION: PCR primer
273 <400> SEQUENCE: 14
274 aggcgcgcca ttatcatcgt gtttttc 27
277 <210> SEQ ID NO: 15
278 <211> LENGTH: 29
279 <212> TYPE: DNA
280 <213> ORGANISM: Artificial
282 <220> FEATURE:
283 <223> OTHER INFORMATION: PCR primer
285 <400> SEQUENCE: 15
286 aggcgcgccc taggggtctt tcccccttc 29
289 <210> SEQ ID NO: 16
290 <211> LENGTH: 42
291 <212> TYPE: DNA
292 <213> ORGANISM: Artificial
294 <220> FEATURE:
295 <223> OTHER INFORMATION: PCR primer
297 <400> SEQUENCE: 16
298 gcggcatgcc aatcgccgcg agttctatgt aagcagcttg cc 42
301 <210> SEQ ID NO: 17
302 <211> LENGTH: 26
303 <212> TYPE: DNA
304 <213> ORGANISM: Artificial
306 <220> FEATURE:
307 <223> OTHER INFORMATION: PCR primer
309 <400> SEQUENCE: 17
310 cgggatccat ggctgcgaga gcgtca 26

```

RAW SEQUENCE LISTING

PATENT APPLICATION: US/10/804,331

DATE: 12/02/2004

TIME: 12:44:08

Input Set : A:\9368-5.ST25.txt

Output Set: N:\CRF4\12022004\J804331.raw

```

313 <210> SEQ ID NO: 18
314 <211> LENGTH: 28
315 <212> TYPE: DNA
316 <213> ORGANISM: Artificial
318 <220> FEATURE:
319 <223> OTHER INFORMATION: PCR primer
321 <400> SEQUENCE: 18
322 cgggatacctt attgagacaa ggggtcgc                28
325 <210> SEQ ID NO: 19
326 <211> LENGTH: 24
327 <212> TYPE: DNA
328 <213> ORGANISM: Artificial
330 <220> FEATURE:
331 <223> OTHER INFORMATION: PCR primer
333 <400> SEQUENCE: 19
334 ccctgctcgt gccagtgttg atgc                24
337 <210> SEQ ID NO: 20
338 <211> LENGTH: 35
339 <212> TYPE: DNA
340 <213> ORGANISM: Artificial
342 <220> FEATURE:
343 <223> OTHER INFORMATION: PCR primer
345 <400> SEQUENCE: 20
346 acacgtgggg caaccctgat ttatgcctgt tgtcc        35
349 <210> SEQ ID NO: 21
350 <211> LENGTH: 30
351 <212> TYPE: DNA
352 <213> ORGANISM: Artificial
354 <220> FEATURE:
355 <223> OTHER INFORMATION: PCR primer
357 <400> SEQUENCE: 21
358 agttaactca aaaagagaaa acaaaaatgc            30
361 <210> SEQ ID NO: 22
362 <211> LENGTH: 33
363 <212> TYPE: DNA
364 <213> ORGANISM: Artificial
366 <220> FEATURE:
367 <223> OTHER INFORMATION: PCR primer
369 <400> SEQUENCE: 22
370 agatatcttc tcttgaaaat aggacttgtc cac          33
373 <210> SEQ ID NO: 23
374 <211> LENGTH: 25
375 <212> TYPE: DNA
376 <213> ORGANISM: Artificial
378 <220> FEATURE:
379 <223> OTHER INFORMATION: PCR primer
381 <400> SEQUENCE: 23
382 gttcccgttc cagccaatgt atccg                25
385 <210> SEQ ID NO: 24

```

RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/804,331

DATE: 12/02/2004
TIME: 12:44:09

Input Set : A:\9368-5.ST25.txt
Output Set: N:\CRF4\12022004\J804331.raw

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,27,28

Seq#:29,30,31,32,33,34,35,36,37,38,39,40,41,42,43,44

VERIFICATION SUMMARY

PATENT APPLICATION: **US/10/804,331**

DATE: 12/02/2004

TIME: 12:44:09

Input Set : **A:\9368-5.ST25.txt**

Output Set: **N:\CRF4\12022004\J804331.raw**